

Exhibit
531

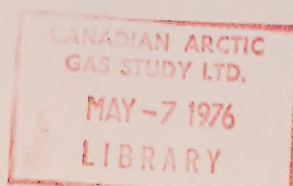
Mackenzie Valley Pipeline Inquiry

Effect of Northern Pipeline Construction on
Wildlife Management
in
The Yukon Territory

D. H. Mossop

Biologist, Yukon Territorial Game Branch

Prepared for Commission Counsel, February, 1976





Digitized by the Internet Archive
in 2025 with funding from
University of Toronto

<https://archive.org/details/31761120644281>

Mr. Commissioner;

The contribution the Yukon Territorial Game Branch feels it can make to this inquiry is a kind of pre-analysis of our response to management problems which the construction and maintenance of a northern pipeline will create. We intend to describe from other areas in the territory the kinds of problems encountered when new areas are opened to activity. We can predict the influence our Branch can have in such instances, and we can offer our opinion based on our experience about what kinds of mitigative measures can be taken.

The Yukon Territory of the geographic areas influenced by this project is perhaps in an ideal position to make this kind of analysis. The reason for this is our history, a 'boom and bust' type of activity written around the mining industry. We can look to large influxes of people to pristine country somewhat analogous to the pipeline construction we are here contemplating, and analyze their influence on the same kind of creatures as will be encountered in the far north.

Our mandate in the Yukon Territory unfortunately does not include management of wildlife habitat and I feel it is important for you to weigh our concerns in this light. We can only hope that an adequate picture of the consequences to the basic productive nature of the land on which our wildlife is

dependent will be presented by those in whose hands these matters rest. I will therefore be talking primarily about matters which affect wild creatures directly, harvest, harrassment, etc. and consequences to population demography, turn over, etc. all of which I feel need clearer stating before this inquiry.

Historical Perspective of Management in Arctic Yukon

I think the picture of the intact natural system in the arctic Yukon Territory with its 100,000 caribou; 600,000 waterbirds, surprisingly productive aquatic communities, furbearer populations, etc. has already been adequately described and impressed on all those involved in this inquiry. There should be no doubt that the northern Yukon is already a very active and productive place. New activity, we can only pray, will be weighed in value with the value of what is already going on in that land.

What I feel has not been adequately described is the state of readiness in which we find the managing authority in whose hands rest the responsibility for the well being of those animal communities. The Yukon Game Branch made its first visit to the north coast in 1970. From 1971 - 74 our only presence there was in the form of monthly patrol flights by members of the Whitehorse staff. This program was

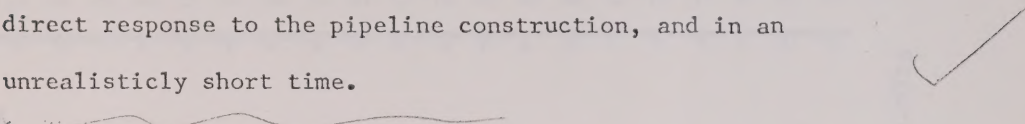
replaced in 1974 by a small summer program combining management-oriented research and patrols. These attempts by our Branch to become active in the north have been made at the request of our Commissioner primarily in response to the pipeline related activity over the last few years.

Our present program is very much an embryonic presence in the north. There is no permanent detachment in the Yukon north of Dawson City and enforcement in the north is carried out by Conservation Officers "borrowed" from the south for short periods. Perhaps even more desperate is our tiny effort to gather management data for the wildlife populations of the north. In the time frame available to us and under our present capabilities, it will be completely impossible to make meaningful management decisions during pipeline construction.

Wildlife management even in the southern Yukon Territory is in its formative stages. The first biologist on staff was hired in 1972 and presently 2 biologists and 2 technicians make up the entire technical staff for the whole of the Yukon. Of 11 management zones in the territory, 3 southern ones have been covered in a preliminary big game census program. Harvest adjustments based on this work were commenced only last year.

The point we wish to make is this: The applicant has indicated that gathering management oriented data and devising management schemes relative to the areas affected by the pipeline construction is the responsibility of the managing authority. This enquiry should be informed that such a

managing agency in the northern Yukon Territory simply does not exist. The Yukon Game Branch will have to expand its program in the north to an effective managing agency in direct response to the pipeline construction, and in an unrealistically short time.



Response Capabilities of the Yukon Game Branch

As mentioned, the Yukon has experienced a series of 'booms' in activity and development. I wish to present two comparisons. One is the total number of people in the Yukon engaged in sport hunting compared to the size of the Yukon Game Branch staff, (slide 1). This figure demonstrated the lack of relationship between the level of pressure on the wildlife populations from this one source and the regulatory effort by the Game Branch. The number of hunting licence sales bears a close relation to the number of people in the territory which has fluctuated much as shown. The Branch on the other hand has exhibited a low, almost linear development.

The second comparison is perhaps more meaningful for the purposes of this inquiry. It compares a more recent, regional 'boom' of activity in the mining exploration industry which has been taking place in the Mayo district over the last few years. (Slide 2) This influx of activity has occurred to relatively pristine country with very good but poorly known wildlife populations, and has involved technical

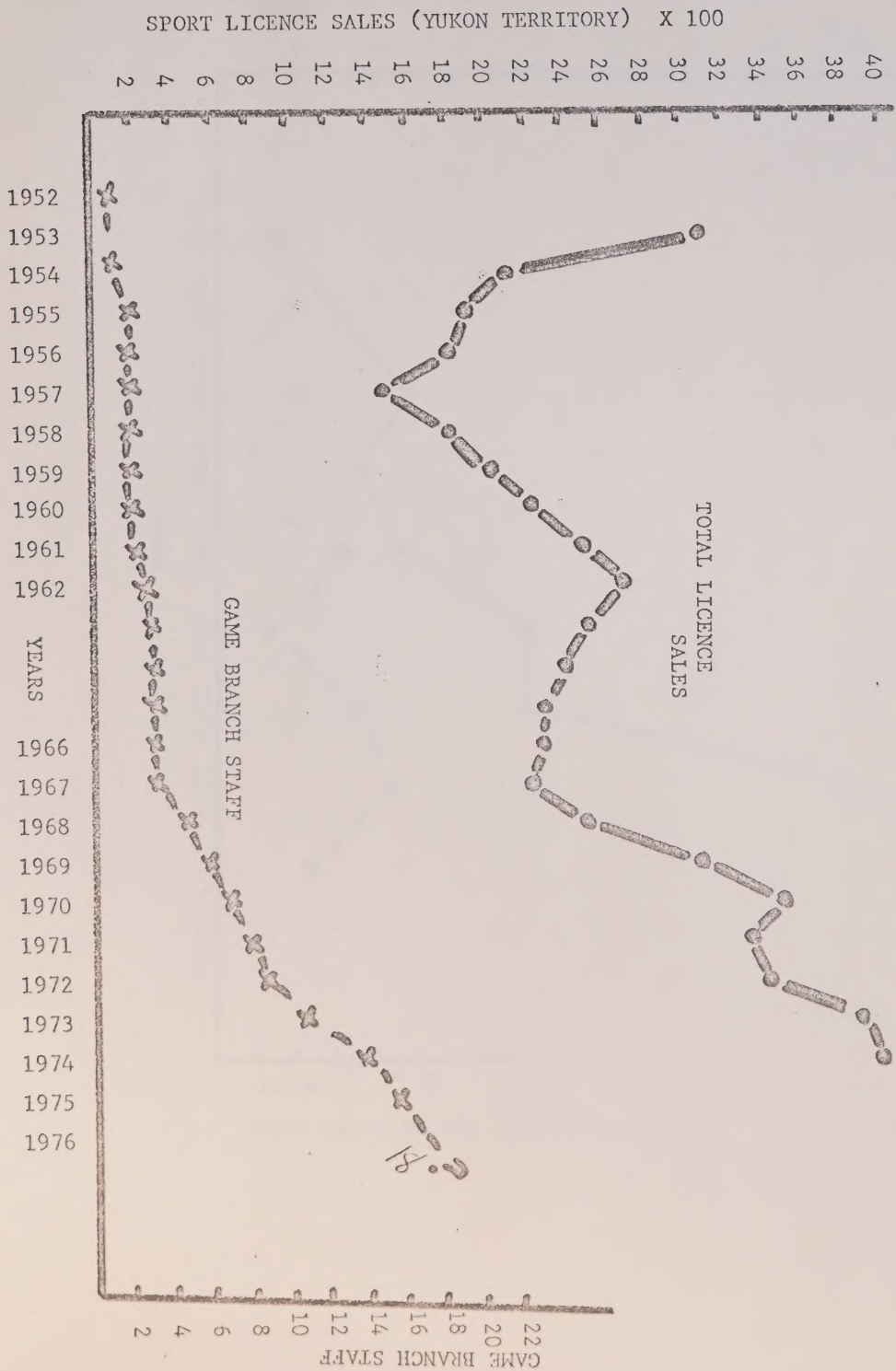
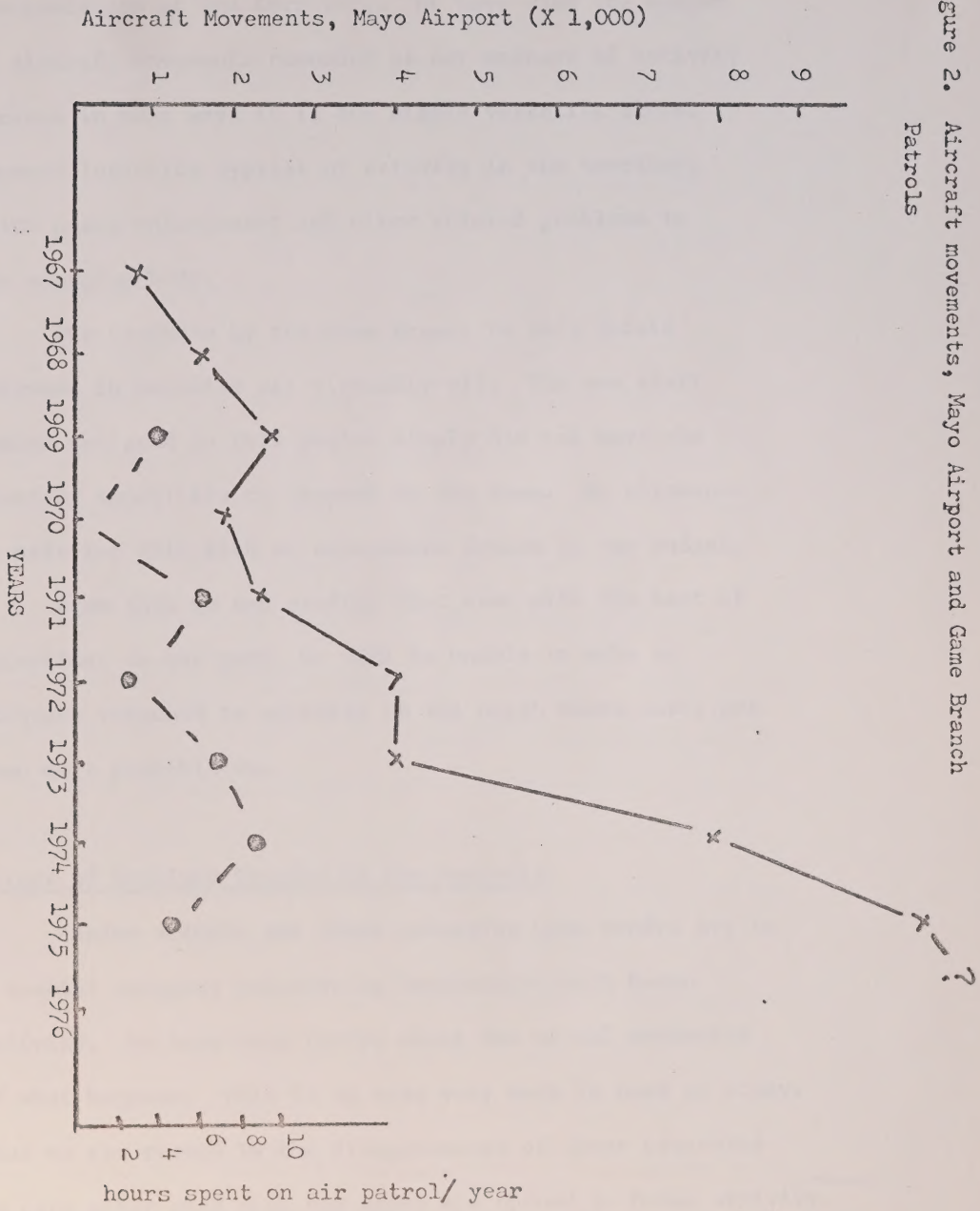


Figure 1. Total sport licence sales and Y.T. Game Branch staff 1952 - 1975.

Figure 2. Aircraft movements, Mayo Airport and Game Branch Patrols



activity and large numbers of personnel, many of whom are non-residents of the territory. We have used the number of aircraft movements recorded as our measure of activity because in many ways it is the highly versatile aerial support logistics typical of activity in the territory which poses enforcement and other related problems to the managing body.

The response by the Game Branch to this 5-fold increase in activity was virtually nil. The one staff member assigned to this region simply did not have the monetary capability to respond to the boom. No allowance is made for this kind of unforeseen demand in our budget.

From this we can predict that even with the best of intentions on our part, we will be unable to make an adequate response to activity in the north where costs are even more prohibitive.

Nature of Problems Created by New Activity

Alpine animals and those occupying open tundra are in a special category relative to interaction with human activity. We know very little about the actual mechanics of what happens; this is an area very much in need of study. What we can record is the disappearance of these creatures in case after case when new areas are opened to human activity. Many of the animals involved are the same ones as are found

in the arctic Yukon: caribou, dall sheep, grizzly bear.

We can cite many cases of this phenomenon from the southern Yukon. Montana Mountain is an area of about 160 square miles with a long history of excellent big game populations. Before the 1940's access to the area was very restricted. About that time a roadway in support of mining was improved and extended by the 1960's to allow vehicular access to most of the alpine area. The area of actual wildlife habitat used up in the roadway and three abandoned mine sites is minimal and there has been no mining activity in the area for the last 5 years. Yet the effect on the wildlife populations has been dramatic. A large dall sheep population which was estimated at over 200 has been exterminated completely; a famous caribou population which was hunted during migration, and from which the town of Carcross got its name, has been reduced to a remnant. A goat population which was at one time relatively large now numbers less than 10. Grizzlies have disappeared from the area completely.

More recent cases can be outlined with better census data. The Sifton Range is an area of alpine tundra of about 150 square miles. Some of the finest dall sheep trophies have been taken in the area. In 1973 an operator simply made a bulldozer trail into the area allowing access by 4-wheel drive. The result to date has been the

disappearance of a relict goat population, and the abandonment of over half of the original sheep habitat.

It is important to realize that these dramatic effects occur within the restrictions of the Yukon Game Ordinance for the taking of game. Access related problems go far beyond the simple process of allowing hunters the opportunity to harvest game although this is undoubtedly involved. There are aspects of the presence of roads, and their use by people, perhaps compounded by the legal and illegal harvest of game by hunters, which research to date has not elucidated. The very traditions of use of alpine ranges have been altered by access construction.

I submit that the winter access routes, airstrips, buildings and especially any all weather roads the construction and maintenance of the northern pipeline will create, offer opportunity for access to the northern areas where there was none before. We also submit, based on our experience that these facilities will be used by increasing numbers of people and that restrictions on their use will never be realized.

The Dempster Highway must be considered a special case of increased access related to the pipeline construction. Whether or not it is agreed that the highway is being built in anticipation of the pipeline construction it will undoubtedly be used by ancillary activity relative to the pipe and will be a prime route of access for persons visiting

the construction area out of curiosity, etc. *and other reasons*

All weather roads in the Yukon pose the additional problem of offering a main trunk for the construction of laterals. Until recently, private construction in minor roadways has occurred in the Yukon with very little control. This ultimately has opened an ever-increasing area to access. This, although it may not bear directly on this Inquiry, gives a picture of the magnitude of influence a road like the Dempster has on wildlife. The response of the managing agency ideally should follow suite.

already covered

The exposure of endangered species, such as the Peregrine Falcon, to new access is, of course, a special case. The disturbance studies conducted near falcon nests were some of the best work done in support of the pipeline. However, we would fault them because they may have ignored the most important threat to the nest sites. We are convinced that the most pressing problem will be an influx of persons, who - for a variety of reasons including the poaching of young birds for falconry - will disturb nest sites and jeopardize productivity. The level of surveillance necessary to prevent this problem is very costly.

These points give, in a general way, the kinds of problems that will arise in the area of increased activity. They should leave no doubt that when the pipeline is begun the managing agency will have to become active immediately and that this activity will never be safely terminated.

Management Research Requirements

The dilemma facing the managing body is that there is no time being offered in which to develop management policy. The uncertainty of the construction precludes any budgeting of funds and at best we will be able to move into the area only in "the eleventh hour."

The research that has already been done in the north in support of the pipeline application is extremely valuable as far as it goes and it should not be belittled. However, it is largely inventory in nature and as explained by the various researchers, it was not designed to give management decisions. We readily agree that the responsibility for devising management plans rests with the government agency involved. The Game Branch in the Yukon is ready to accept this responsibility given the capabilities to do so.

The first stage, as we see it, is a gathering together of all the information which has already been produced and extracting everything which is of management significance. There is no one in our branch who has had the time to even read through all that is available - outside that referring to mammals and birds directly. Quite frankly, we see some responsibility for this lying with the applicant.

From this the gaps emerge. Basically what is needed in management is data on population dynamics. In most instances this kind of data can be accumulated only by setting up a continuing program to gather the exact same kind of information

annually.

An example of an important unknown in the case of the Porcupine caribou herd is the annual kill by native people. We have estimates of this value but no one has taken the time to establish a program to actually count up the harvest. Nor was a standard method of measuring recruitment devised by the various caribou workers so this value is different depending on whose report you read. We know very little about the natural mortality of the herd; its winter ecology contains many important mysteries, most of which have already been named by others; and perhaps even more critical, we understand surprisingly little about the total ecology of caribou on their calving grounds.

Another whole series of questions are unanswered relative to caribou and the Dempster Highway. The Yukon Game Branch has posed these questions in the past and has made repeated attempts to interest the Canadian Wildlife Service in solving them with no major success. In a seeming desperation attempt, the Game Branch has tried applying management techniques without the research on which to base it. We have tried closing sections of the roadway to hunting - "corridors" - to allow caribou crossing. This apparently had little effect so we tried closing the whole highway to hunting in the mornings to allow caribou a crossing during the night and morning. In the meantime 5 years have gone by; our experimenting seems to have been a failure and still we

have no basic research on which to base policy.

Mr. Commissioner, without belabouring the fact that more research needs to be done before we can begin managing the wildlife of the northern Yukon, consider two other examples. The Dall Sheep of the British and Richardson Mountains in the Yukon are virtually unhunted. With the completion of access to the north, because of the pipeline, these populations are going to be subjected to immediate harvest pressure. Without a comprehensive study of the productivity, mortality and annual ecological cycle of events, there is no way to determine if a harvest should be allowed at all, let alone how large it should be.

The sport fishery is another pressing example. Dr. McCart has stated before this enquiry that life history study is needed, along with productivity measurements, before the stability of the fish populations can be known. There are a number of very well-known fish runs in the northern Yukon which the facilities of the pipeline will undoubtedly open to increased fishing. The Game Branch is responsible for the sport fishery and can have no plans at all for special regulations given the present information base.

Game Branch Contingency Plans

Should the pipeline be built across the northern Yukon the Game Branch wishes to respond by establishing three new permanent detachments in the north.

The cost of this expansion, plus basic staff, will amount to about 700 thousand dollars or about equal to the total present annual budget of the Yukon Game Branch.

This plan would put one detachment on the North Coast, one at Old Crow, and one on the northern Dempster Highway. The detachments would have to be supplied with a basic enforcement staff and aerial support logistics. We envision technical staff attached to each unit on a permanent or temporary basis depending on location. The purpose of the technical staff would be to gather routine management data, implement management schemes and assess their effects.

This plan must be considered in addition to the major research program which must be carried out initially to devise rationale for management (as described above).

In addition to this we envision another semi-permanent staff whose responsibility it would be to assess the progress of construction. This staff would be assigned to the area of the route chosen and would directly involve itself with the special regulations and programs of actual pipeline construction. This staff would include at least one biologist and technician plus a small enforcement staff. It would be supported by some additional form of aerial transportation. This, we estimate to cost about 200 thousand dollars annually as long as it is needed. The total initial need for an appropriate response, including the three

stages we have outlined, would be in the order of \$1,000,000.

Special Regulations and Responsibility of the Managing Body

In general, we feel that the issue of special regulations governing the pipeline construction and pipeline personnel has been adequately discussed before this inquiry. Basically we wish to see pipeline personnel engaging in nothing outside of actually building the pipe. This includes a ban on all wandering from the site, hunting, use of vehicles for other than necessary trips, etc.

An important feature of this regulation is that it must apply to all non-pipeline persons who happen to be present on the site. The use of any of the pipeline-related facilities must involve the adopting of all the environmental safeguards.

On our part we are contemplating closing the entire arctic Yukon to sport hunting for the time being. This would alleviate the pressure from this one source until our management program is well advanced. There are parts of the regulatory phase the responsibility of which we would like laid fully upon the applicant. This primarily involves policing their own personnel and associates. Nor are we particularly interested in watching the compliance with specific regulations relating directly to the pipeline construction. We favour an independent body formed solely for this purpose, perhaps by the federal government.

The role the Game Branch will perform is one of monitoring the wildlife populations during construction. The Game Branch will be the body responsible for carrying on the management of wildlife in the future and we are most concerned that we develop our agency to the point where this is possible.

Obviously our monitoring role must be done in close liaison with the regulatory authority of the company itself and other government regulatory bodies. We would oppose any other agency assuming the role of monitoring wildlife populations on the basis that the Yukon Game Branch already has this responsibility and following construction of this first pipeline we must have developed our department to the point where we can carry on with management.

I want now to give two instances of response by the Yukon Game Branch to activity outside our normal capabilities of response to illustrate the philosophy that would seem most appropriate in the far north. The first is our present program in the northern Yukon. It was forced on us by the developments in the north over the last few years as mentioned. In 1974 we attempted to finance the program from our own budget and suffered an unacceptable overrun. In 1975 the Department of Indian and Northern Affairs agreed to the necessity of our program and made a special grant to cover the major part of our expenses. In 1976 we will likely be able to handle the Old Crow program ourselves.

The second instance involves the Dempster Highway. The contract for the next segment of the road will include certain support to the Game Branch in order that we may carry out a biological monitoring program on its effect on caribou. This support, in the form of lodging, board, and aircraft time, will be

supplied by the contractor and by the proponent according to agreement between them.

We point to the precedent this has set for new activity in the north, and trust this enquiry has closely scrutinized the Aleyaska agreement with the Alaska Department of Fish and Game in this regard. Where a land user moves into new country, opening it to access, certain responsibilities must be borne with regard to the managing agency. The pipeline response by this branch is, in our opinion, an extraordinary situation requiring extraordinary input. We have demonstrated our inability to respond to booms in activity because of staff and budget limitations. The North Coast expansion is a direct result of the pipeline construction and, therefore, we feel the applicant should be prepared to fund our expansion as an integral part of his program.

Further in this same regard we feel that the guarantee of compliance to original intentions in the form of a bond should not be considered the same as granting assistance to the managing body. In spite of the best of intentions by the applicant there will always remain the possibility that damage may be incurred to the wildlife populations. We cannot accept the premise that because the Game Branch was enabled to make the response it felt necessary, full responsibility falls on us for the well-being of the wildlife. Our prime role as far as the direct effect of the pipeline construction ~~and~~ concerned, given the time frame

contemplated, will undoubtedly be as a monitor not as a preventer of change.

The process of rebuilding wildlife populations can be very expensive and cannot be considered as a normal part of the responsibilities of the managing authority. Considering the \$14 million dollars already spent by Gas Arctic on wildlife-related studies it would not seem unfair to ask for a substantial performance guarantee.

Summarizing our position relative to management problems and the pipeline construction. Where new areas are opened to access, wildlife populations notably those associated with open tundra, cannot continue without the application of management techniques. The managing body in the Yukon Territory is the Yukon Game Branch which given present capabilities will not be able to carry out the function of management in the northern Yukon for many years to come. Our plans to meet the construction are basically to establish a three-part program of initial research, wildlife population monitoring during construction, and a continuing program of management and enforcement. To establish this program in the time frame, which seems contemplated, we suggest the applicant has a responsibility for funding our expansion. We also suggest a guarantee of performance which could be used to repair damage to wildlife populations incurred during the pipeline construction.

